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JOANNA PĘTKOWSKA*

ROLE OF FREEHAND DRAWING IN AN ARCHITECTURAL AND URBAN DESIGN PROCESS ILLUSTRATED BY THE EXAMPLE OF *CHARRETTE* WORKSHOPS

ROLA RYSUNKU ODRĘCZNEGO W PROCESIE PROJEKTOWANIA NA PRZYKŁADZIE METODY WARSZTATÓW *CHARRETTE*

Abstract

Freehand drawing enables visualization of an idea in the form of a sketch. It is also a universal language designers use to communicate with other participants of a project. That is why freehand drawing ought to be an inherent element of a design process, especially in the first conceptual phase. In order to support this thesis I describe, using my work experience as a basis, the architectural and urban *charrette* workshop's method, which is a design process in a nutshell. Among others I try to answer the following questions: To what extent should computer programs be used in the first design phase of a project? Where are the boundaries between freehand and computer drawing? Research results can be considered as general guidelines for a freehand drawing curriculum.

Keywords: *freehand drawing*, *design process*, *charrette method*, *design tools*, *architectural education*

Streszczenie

Rysunek odręczny umożliwia projektantom przekształcenie myśli w formę, zapis idei w postaci szkicu. Jest również uniwersalnym językiem, jakim projektant komunikuje się z uczestnikami procesu projektowego, więc powinien stanowić nieodłączny element tego procesu, szczególnie jego I fazy – koncepcji. W celu poparcia tej tezy opisuję na podstawie moich doświadczeń metodę projektowania opartą na warsztatach *charrette*, stanowiących niejako proces projektowy „w pigułce". Odpowiadam na pytania: czy i w jakim zakresie należy wykorzystywać komputer we wczesnej fazie projektu, oraz: gdzie znajduje się granica między rysunkiem odręcznym i komputerowym? Wnioski z badań stanowią również ogólne wytyczne do programu nauczania rysunku.

Słowa kluczowe: *rysunek odręczny*, *proces projektowy*, *warsztaty charrette*, *narzędzia projektowe, nauczanie rysunku*

* M.Sc. Arch. Joanna Pętkowska, Institute of Architectural Heritage and Art, Faculty of Architecture, Warsaw University of Technology.

1. Introduction

In times of constant change in the system of recording, processing and presenting data, it is a good idea to get back to the very thinking process as an essence of designing. It remains the same regardless of the technological progress. A product of the thinking process is a design concept, commonly known as 'an idea' which is determined only by the designer's imagination. It should not be dependent on or tied up with attributes of a design tool one has chosen. Since the oldest times, freehand drawing has been the easiest and the most natural medium and has been a basic element of the architect's workshop skills. Already Vitruvius wrote about its importance in the 1st century BC, emphasising the knowledge of drawing as one among a wide variety of disciplines in which an architect ought to be proficient[1].

Today, in comparison to ancient times, the presence of freehand drawing throughout the designing process is decreasing in favour of computer use indispensable within creating detailed project documentation. However, sketching remains the best option in the earliest, conceptual design phase. This is illustrated through an example of architectural and urban *charrette* workshops, in which sketches serve as means of the best communication between professionals and non-professional members of the design process.

2. *Charrette* workshops

*Charrette w*orkshops aim at an intensification of the conceptual phase and attempt to arrive at a satisfactory solution for all of the involved parties by facilitating a dialogue between them. It would not be possible without freehand sketches explaining the constantly evolving ideas. That is why *charrette* as a design process in a nutshell can provide an example illustrating the role of freehand drawing in the broad context of designing.

The *charrette* itself commences on or near the project site, but is preceded by *pre--charrette*, while project data, preliminary development programs and other regulations are collected and reviewed prior to the team's arrival on site. Typically, designers gather in a single space to study and develop proposals for approximately three to ten days. The *charrette* brings together all interested parties: architects, planners, engineers, environmental consultants, CAD operators, the client, local public officials and community[2].

On the first day of the *charrette,* the design team visits the project site and gets to know the local and traditional architecture. Already on the same day, first ideas in a form of sketches are created (Ill. 1a i 1b). This could be spatial planning, greenery, transport or functional schemes as well as first visions of the future architecture and details (Ill. 1e). Through presentations, meetings and pin-up sessions, the *charrette* team is able to keep the client and other involved parties continually informed as the plan unfolds. The final project, so called 'Master Plan' (Ill. 1c), takes into account all the suggestions and conclusions

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[1] Vitruvius, *O architekturze ksiąg dziesięć*, Warsaw 1955, p. 12.

[2] D. Phillips, *DPZ-Europe Architects and Town Planners Company Profile,* firm's brochure, Berlin 2010, pp. 5-6.

gathered in the course of the workshop. During the final presentation on the last night of the *charrette* all of the work produced is introduced and explained. The project contains detailed plan, diagrams (public buildings and spaces, private lots, open space network, green areas, communication, etc.), a regulating plan with street sections, urban and architectural regulations, thoroughfare standards, draft prototypical building floor plans, bird's-eye view visualizations (Ill. 1f), perspectives from the human eye level (Ill. 1d) as well as phasing of the project's implementation.

What is new to the *charrette* process is the participation of the full community of the projects' constituents and creating a "win-win" solution. Formal and informal meetings are held with various approving agencies and interest groups. On a daily basis the design team's proposals and strategies are "reality tested", so it is impossible to take an unacceptable scheme too far. This process, which produces full documentation in a single week, has proven to be the most efficient and cost-effective means of arriving at consensus for a plan. The method corresponds with the common European idea of development of public participation, architectural education and a sense of sharing responsibility[3].

It is worth adding here that the *charrette* method is closely related to the planning methodology that arose in the United States, called *New Urbanism,* that was created in response to urban sprawl. This urban design movement promotes context-appropriate architecture and planning. Urban places should be framed by architecture and landscape design that celebrate local history, climate, ecology, and building practice. Among other things, it is also related to historic preservation, safe streets and the revitalization of old urban areas. All of these principles lead to the enhancing of urban identity[4].

3. The role of freehand drawing in the design process illustrated by *charrette* workshops

According to the idea of *New Urbanism* the first day of workshop is focused on exploring the local environment and the surroundings as well as becoming acquainted with the existing urban and architectural tradition. A number of photos are taken on the site to acquire information about the context of the project. However, these are much less valuable than sketches because drawing in contrast to photography is an active cognitive process helping to create a 'database' used afterwards during the designing process[5]. Prof. Konrad Kucza-Kuczyński writes about the awareness of places generated by the graphical record. He draws attention to the fact that the knowledge of space in the form of a sketch is a direct inspiration for the future architecture[6]. It directly influences the subsequent design and results in a better understanding of the context and conscious designing.

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[3] *Duany Plater-Zyberk & Company. Architecture and Town Planning,* firm's brochure, Miami 2013, pp. 16-17.

[4] M. Mycielski, *Warsztat planistyczny charrette a Nowy Urbanizm*, Urbanista, 2005, No. 3, pp. 37-39.

[5] M. Orzechowski, *Poszukiwanie architektury*, Warsaw 2010, pp. 6, 10.

[6] K. Kucza-Kuczyński, *Architekt rysujący*, [in:] *Rysunek. Zmysł Architektury*, M. Orzechowski, Warsaw 2014, p. 70.

The first analysis precedes the shaping and crystallization of an idea. At this particular stage the drawing fulfils the most important role and becomes "a special moment when architecture and urbanism is being created"[7]. However, the design thoughts are created in an architect's mind and are born before the first sketching. In contrast to Platonic ideas, they do not reflect the general and permanent truth. They refer to previously remembered and understood forms, to knowledge acquired subjectively, but at the same time through conscious observation[8]. Paolo Belardi notes the dual character of the first sketch and compares it to an acorn in which a whole oak tree is hidden. From the sketch – the best and clearest synthesis of the main idea – at the same time emerges the final project, with all its complexity[9]. The dualism of the conceptual project can also be understood as a quotation from many areas well known by the designer and at the same time as a moment of a very individual creation. Drawing, as a manual activity, has always characterized humanity. Up to now it has been one of the basic human interests, exceptionally emphasizing the individualism of an author[10]. It always has an authentic and original character[11].

Moreover, what is really important during the *charrette* is the simplicity of the message, because communication of all involved parties is the main aspect of the workshop. At the same time, sketches have also an unspecified and non-committal character encouraging the public to provide feedback. What is more, these quick drawings are not time-consuming, so the designer can easily modify them or even start over from the very beginning. This happens with no regret because one did not waste much time going into too much detail as often happens with drawings made on the computer. The strength of the digital techniques lies in their infinite precision, but it begins to be a weakness exactly at the first, conceptual phase of the project. At this phase, more important is the character of space than correctness and accuracy; "details are thrown off, because they could absorb attention as much as the most important element: general idea"[12]. Variability and constant modifications of the project basically preclude the use of a computer in the first days of a *charrette*, because continuous implementation of changes in CAD programs requires a lot more time than making a quick sketch of a new project version. In addition, at the initial stage of the project, designers do not have specific data to create architectural or urban details. Yet, at the same time ,there is a need to present a character and an atmosphere of the project. An ideal medium that does not require this type of information is freehand perspective. It provides a perfect and quickly made material for discussion with stakeholders. Currently available computer programs cannot manage to generate, for example, a quick street view without time--consuming modeling based on the set parameters. The imagination of the designer deriving from knowledge and emotions expressed in the form of an original sketch is an element irreplaceable by any digital program.

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[7] S. Gzell, *O Architekturze. Szkice pisane i rysowane*, Warsaw 2014, p. 145.

[8] G. Hasenhütl, *Zeichnerisches Wissen*, [in:] *Kulturtechnik Entwerfen. Praktiken, Konzepte und Medien in Architektur und Design Science*, D. Gethmann, S. Hauser, Bielefeld 2009, p. 341.

[9] P. Belardi, *Why Architects Still Draw*, MIT Press 2014, translator's note.

[10] *Ibidem*, pp. 9-10.

[11] J. Grochulski, *Architektura potrzebuje rysunku*, [in:] M. Orzechowski, *op. cit*., p. 36.

[12] *Ibidem*.

Furthermore, drawing is a means of communication in a dual sense. It helps the designer to conduct a dialogue with himself so that one can realize the emerging design solutions and articulate his or her thoughts graphically. It is also a universal language understood regardless of the cultural environment. What is more, freehand perspectives explain the project much more clearly than complicated plans with elevations and sections usually unintelligible for non-professionals.

The *charrette* ends with the public presentation of the final project when it is easy to notice one more advantage of freehand drawing. Not only the clarity and simplicity of the message but also the attractiveness of the colorful perspectives play an important role in the process of introducing the project's conception. Drawing has a remarkable force of impact, much stronger than words. It "reaches the heart and point"[13]. Moreover, it is an important marketing asset at the moment of 'selling' the project to the wider audience and convincing people of the beauty of the future realization.

At the final stage some plans are also presented digitally. What is worth adding is that it ought to take place at an appropriate time, after developing the idea with more precision, and not earlier than the tome when there is a need to show the pure truth about the building or a plan.

4. A word on education

It is important to mention that the designer can visualize ideas emerging in his or her imagination in many different ways, freehand drawing being only one of the possible solutions to achieve that goal. Some prefer to assemble simple models or mock-ups. Others use digital techniques to create plans and sections, sometimes even without the three--dimensional presentation of an idea[14]. The choice of the approach depends on the designer's level of skills in using the particular tool and his or her personal preferences. However, it is often the case that designers of a highly developed hand drawing or computer skills put too much emphasis on the esthetics and the overall beauty of the outcome, potentially hampering the objective assessment of the design solution's quality.

Thus, in this context it is especially important to provide an adequate education for future architects that encompasses possibly the broadest spectrum of available design techniques. It is crucial not to forget that the presence of the freehand drawing techniques in the architectural curriculum is not aimed only to present a certain esthetics of graphical representation of a designer's idea. Freehand drawing trains the perception of space, facilitates its understanding, remembering and most of all develops spatial imagination. Therefore, freehand drawing should be a constant and mandatory element in an architectural and urban planning education.

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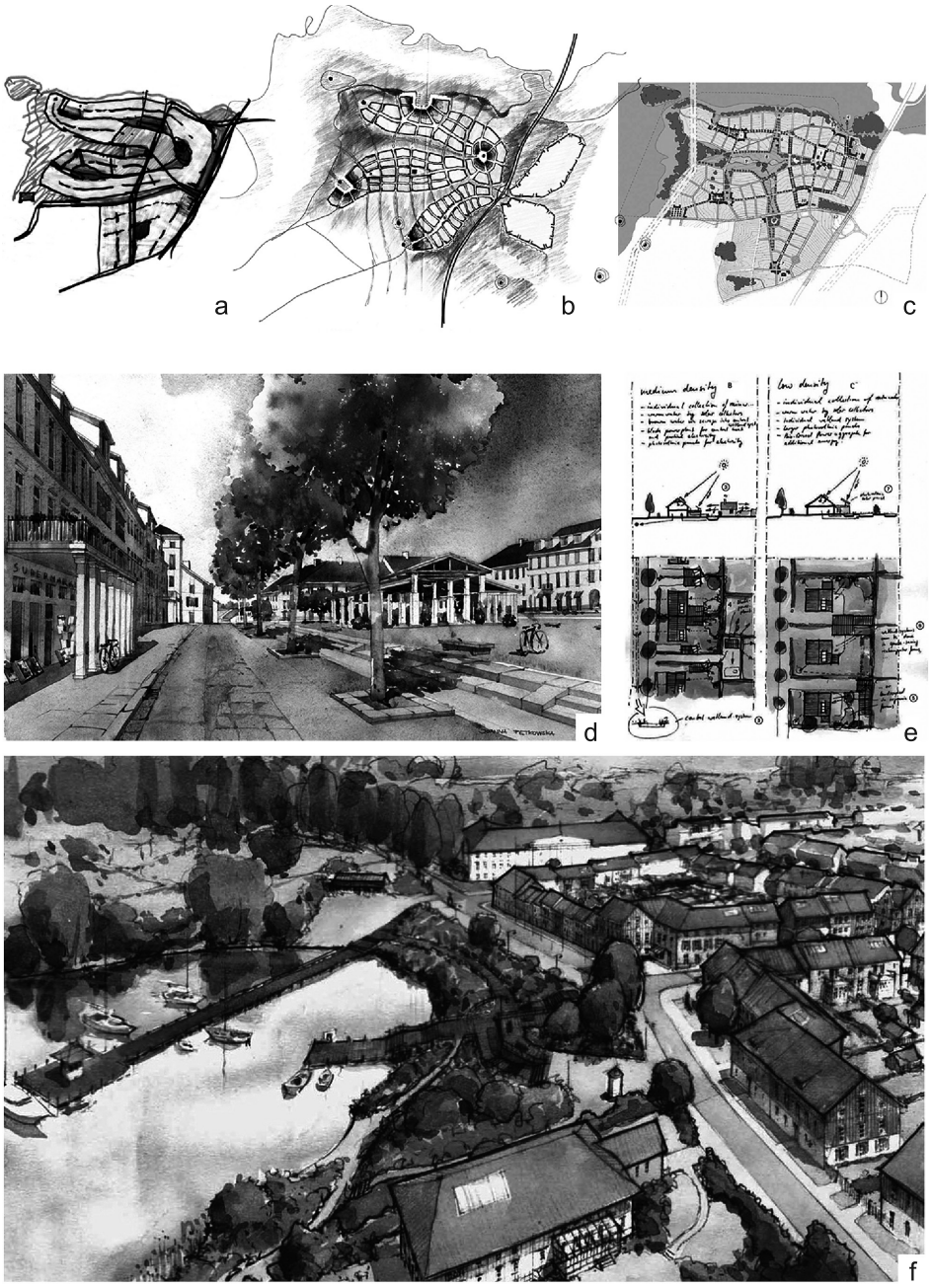
[13] W. Karczmarzyk, esej o rysunku architektonicznym, [in:] M. Orzechowski, *op. cit*., p. 58.

[14] M. Orzechowski, *Poszukiwanie architektury, op. cit*., p. 10.

5. Conclusions

Holding the most open and comprehensive view on the innovations that have happened in the area of digital techniques in recent years, we should keep in mind the advice given by Michelangelo to his assistant Antonio Mini. When Antonio asked how to become a great artist, the Master wrote the following sentence on the paper next to his drawing: "Disegna Antonio, disegna Antonio, disegna e non perder tempo" ("Draw Antonio, draw Antonio, draw and do not waste time")[15].

[15] J.A. Symonds, *The Life of Michelangelo Buonarroti*, Philadelphia 2002, p. 375.



Ill. 1. Drawings from a workshop *charrette* in Siewierz, 2007: a, b – first sketches, c – final plan (Master Plan), d – perspective from a human's eye level, author: Joanna Pętkowska, e – plan and section of an urban detail, f – bird's-eye view perspective (author: Max von Trott zu Solz)

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